ABSTRACT

BACKGROUND: Periodontitis is an inflammatory disease of the periodontium. The most commonly used treatment modality involves scaling and root planing. However, some microorganisms remain on the root surface even after root planing and scaling procedures. The properties of Lasers, such as monochromaticity, directionality and coherence make them unique and suitable for use in medical and dental fields. Recently, lasers have been put to use in procedures such as, pocket decontamination for treating periodontal disease.

AIM: The aim of this study was to evaluate the effect of diode laser as an adjunct to scaling and root planing in the treatment of chronic periodontitis based on clinical and microbiological parameters at baseline and 3 months.

MATERIALS AND METHODS: The study included 12 patients with chronic periodontitis, whose age ranged from 25 to 50 years. Following full mouth scaling and root planing, subgingival plaque samples were collected using sterile Gracey curettes, to test for microorganisms using multiplex PCR at baseline and at 3 months. A diode laser which operated at a wavelength of 970±15 nm with and having a power output of 2 watts, was used for pocket decontamination.

RESULTS: Both test and control groups demonstrated no statistically significant improvements in PlI ($p = 0.814$), GI ($p = 0.814$), PD ($p = 0.071$) and CAL ($p = 0.183$) from baseline to 3 months. At 3 months, there was no statistically significant difference in the clinical parameters between test and control groups, suggesting that adjunctive use of diode laser did not seem to have any added benefit over

conventional SRP. The PCR test for *A.a* (p= 0.564) and *T.f* (p = 0.414) demonstrated no significant improvement in the test group when compared to the control group.

CONCLUSION: The results obtained in this study suggest that diode laser offered no significant benefit over conventional scaling and root planing as regards to the clinical and microbiological parameters that were assessed 3 months post operatively.

KEY WORDS:

Scaling and root planing, Diode laser, chronic periodontitis, Pocket decontamination, Multiplex PCR.